



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/082,836	02/25/2002	Masahiko Yukawa	09792909-5346	1041

26263 7590 06/23/2005

SONNENSCHN NATH & ROSENTHAL LLP
P.O. BOX 061080
WACKER DRIVE STATION, SEARS TOWER
CHICAGO, IL 60606-1080

EXAMINER

DANIELS, ANTHONY J

ART UNIT PAPER NUMBER

2615

DATE MAILED: 06/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/082,836

Applicant(s)

YUKAWA ET AL.

Examiner

Anthony J. Daniels

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

1. The amendments, filed 5/16/2005, has been entered and made of record. Claims 1-9 are pending in the application.
2. Applicant's amendments to the drawings and abstract have overcome examiner's objection.

Response to Arguments

3. Applicant's arguments with respect to claims 1-4,9 have been considered but are moot in view of the new ground(s) of rejection.
4. Applicant's arguments with respect to claims 5-8 have been considered and are addressed in the context of the following rejections.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claim 5 stands rejected under 35 U.S.C. 102(b) as being anticipated by Tamura et al. (US # 5,130,804).

As to claim 5, Tamura et al. teaches a method of producing a solid-state image pickup device (see Figure 1) comprising the steps of: providing a circuit board with an opening (see Figure 1, circuit board "B"; opening "35"); joining a sensor package (see Figure 1, CCD "17"),

Art Unit: 2615

in which a solid-state image pickup element has been previously sealed (Figure 7; *{The structure of the CCD in Figure 7 shows that the solid-state device is sealed in by the sides of the CCD package which contain the terminals "51" (reply to arguments of Remarks, para. 3).}*), to one surface of the circuit board so that a light-receiving surface of the solid-state image pickup element opposes the opening (see Figure 1, "18","17", and "35"; Col. 3, Lines 65,66); and disposing and joining an optical unit (Figure 1, optical unit "18") at and to the other surface of the circuit board so that incident light is focused on the light-receiving surface (Col. 3, Lines 65-68; Col. 4, Lines 1,2).

Claim Rejections - 35 USC § 103

6. Claims 1,9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamura et al. (see Patent Number above) in view of Mogamiya (US 20010007475).

As to claim 1, Tamura et al. teaches a solid-state image pickup device (see Figure 1) comprising: a circuit board (see Figure 1, circuit board "B") having an opening (see Figure 1, opening "35"); a sensor package (see Figure 1, CCD "17"), disposed at one surface of the circuit board so that a light-receiving surface of a solid-state image pickup element opposes the opening (see Figure 1, "18","17", and "35"; Col. 3, Lines 65,66); and an optical unit (see Figure 1, lens unit "18") disposed at the other surface of the circuit board so that incident light is focused on the light-receiving surface (see Figure 1; Col. 3, Lines 66-68, Col. 4, Lines 1,2; Also see Col. 4, Lines 61-66). The claim differs from Tamura et al. in that it further requires a seal adhered to the sensor package for sealing in the solid-state image pickup element.

Art Unit: 2615

In the same field of endeavor, Mogamiya teaches a sensor package (Figure 2, casing “11”) containing a solid-state image pickup element located at the base of the casing opposing the opening (Figure 1, solid state imaging device “13”; [0037], Lines 1-4), a glass seal hermetically sealing the casing and the solid-state imaging device (Figure 1, cover glass “15”; [0037], Lines 13,14). In light of the teaching of Mogamiya, it would have been obvious to one of ordinary skill in the art to include a glass seal on top of the CCD package of Tamura et al. (see Tamura et al., Figure 7), because an artisan of ordinary skill in the art would recognize that this would effectively shield the solid-state image pickup device from open air (see Mogamiya, [0037], Lines 13,14).

As to claim 9, Tamura et al., as modified by Mogamiya, teaches a solid-state image pickup device according to claim 1, wherein the seal is a glass seal (see Mogamiya, Figure 1, cover glass “15”; [0037], Lines 6-14).

7. Claims 2,3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamura et al. (see Patent Number above) in view of Mogamiya (see Patent Number above) and further in view of Ackland et al. (Non-Patent Literature).

As to claim 2, Tamura et al., as modified by Mogamiya, teaches a solid-state image pickup device of claim 1, including a sensor package (see Figure 1, CCD “17”). The claim differs from Tamura et al., as modified by Mogamiya, in that it further requires that the sensor package include a signal processing circuit for processing a signal of the solid-state image pickup element.

In the same field of endeavor, Ackland et al. teaches a signal processing circuit on the same chip as the CCD sensor package (see Figure 1: Conventional Multimedia camera). In light of the teaching of Ackland et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the CCD sensor package of Tamura et al., as modified by Mogamiya, to include the signal processing circuitry of Ackland et al. Such a modification would allow for all of the processing to be done on a single chip; consequently, consuming less power and would allow for less space to be taken up on the circuit board.

As to claim 3, the limitations of claim 3 can be found in claim 2. Therefore, claim 3 is analyzed and rejected as previously discussed with respect to claim 2.

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tamura et al. (see Patent Number above) in view of Mogamiya (see Patent Number above) and further in view of Tullis (US # 6,535,243).

As to claim 4, Tamura et al., as modified by Mogamiya, teaches a solid-state image pickup device of claim 1. The claim differs from Tamura et al., as modified by Mogamiya, in that it further requires that the circuit board be connected to an external device without a connector.

In the same field of endeavor, Tullis teaches a connection between a computer and a digital camera via a wireless link (see Abstract, Lines 1-4; Figure 1; Col. 3, Lines 62-67). In light of the teaching of Tullis, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Tamura et al., as modified by Mogamiya, to

Art Unit: 2615

include a wireless link to an external device. Such a modification would save space on the circuit board due to the smaller size of antennas to connectors.

9. Claims 6,7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamura et al. (see Patent Number above) in view of Ackland et al. (Non-Patent Literature).

As to claim 6, Tamura et al. teaches a method of producing a solid-state image pickup device according to claim 5. The claim differs from Tamura et al. in that it further requires that the sensor package include a signal processing circuit for processing a signal of the solid-state image pickup element.

In the same field of endeavor, Ackland et al. teaches a signal processing circuit on the same chip as the CCD sensor package (see Figure 1: Conventional Multimedia camera). In light of the teaching of Ackland et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the CCD sensor package of Tamura et al. to include the signal processing circuitry of Ackland et al. Such a modification would allow for all of the processing to be done on a single chip; consequently, consuming less power and would allow for less space to be taken up on the circuit board.

As to claim 7, the limitations of claim 7 can be found in claim 6. Therefore, claim 7 is analyzed and rejected as previously discussed with respect to claim 6.

10. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tamura et al. (see Patent Number above) in view of Tullis (see Patent Number above).

As to claim 8, Tamura et al. teaches a method of producing a solid-state image pickup device according to claim 5. The claim differs from Tamura et al. in that it further requires that the circuit board be connected to an external device without a connector.

In the same field of endeavor, Tullis teaches a connection between a computer and a digital camera via a wireless link (see Abstract, Lines 1-4; Figure 1; Col. 3, Lines 62-67). In light of the teaching of Tullis, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Tamura et al. to include a wireless link to an external device. Such a modification would save space on the circuit board due to the smaller size of antennas to connectors.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In Beyne et al. (US # 6,566,745), Examiner has cited the reference to how that glass seals are well-known as protective layers for solid-state imaging devices (Col. 5, Lines 38-52).

12. Applicant's amendment to claims 1-4 necessitated the new ground(s) of rejection presented in this Office action, and the original rejections to claims 5-8 stand. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

Art Unit: 2615

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony J. Daniels whose telephone number is (571) 272-7362. The examiner can normally be reached on 8:00 A.M. - 4:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AD
6/15/2005



NGOC-YEN VU
PRIMARY EXAMINER